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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,620	02/02/2004	Yoshiaki Mochizuki	04077/LH	2308

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EXAMINER


GARCIA JR, RENE

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/770,620	Applicant(s) MOCHIZUKI, YOSHIAKI 	
	Examiner Rene Garcia, Jr.	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3,6-9 and 12-17 is/are rejected.
- 7) ☒ Claim(s) 2,4,5,10 and 11 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 May 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2 February 2004</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because Figure 3 Reference Number 18 misspelling: “cotrol” should be “control”. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: Grammar - Page 11 Line 25 “rank that has be determined”, perhaps “has been determined” or “has to be determined”.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 14 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Hosono et al. (US 2002/0036669).

Hosono et al. disclose the following claimed limitations:

*regarding claims 1, 14 and 16, inkjet head/**recording head, 1/** inspecting method comprising: (ABS)

*filling an inkjet head with inspecting ink (ABS – has ink therefore has to be filled prior to inspection); furthermore the inspecting ink and image recording ink have not been claimed to differentiate the two

*measuring a driving waveform the inkjet head shows (fig. 13; paragraph 0145 – measuring ink amount to measure Natural Period Tc)

*correcting the measured driving waveform based on a correlation formula (figs. 5 & 7; paragraphs 0165 & 168), which is obtained beforehand based on image recording ink the inkjet head uses for image recording

*setting the inkjet head to have a driving waveform based on a result of correction (paragraphs 0156 & 0188)

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*regarding claim 3, applying a driving waveform corrected based on the correlation formula to one of a plurality of ranks determined based on a minimum resolution unit of the driving waveform (paragraphs 0188 & 0156)

*wherein the driving waveform corrected based on the correlation formula is a driving waveform corresponding to a rank to which the measured driving waveform is applied (paragraphs 0188 & 0156)

*further regarding claims 14 and 16, storage section which stores driving waveform information (paragraph 0100)

5. Claims 8, 15 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Kojima (US 2002/0167558)

*regarding claims 8, 15, and 17, inkjet head/1/ inspecting method comprising: (ABS)

*filling an inkjet head/1/ with inspecting ink (ABS – has ink therefore has to be filled prior to inspection); furthermore the inspecting ink and image recording ink have not been claimed to differentiate the two

*measuring a driving voltage the inkjet head shows (paragraph 0073 – measure the capacitance which is a driving voltage for the print head)

*correcting the measured driving voltage based on a correlation formula, which is obtained beforehand based on image recording ink the inkjet head uses for image recording (paragraph 0098 & 0102)

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*setting the inkjet head to have a driving voltage based on a result of correction
(paragraph 0102)

*further regarding claims 15 and 17, storage section further stores driving voltage
information (paragraph 0044 & 0102)

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosono et al. (US 2002/0036669) in view of Taguchi et al. (US 2004/0080596).

Hosono et al. does not disclose the following claimed limitation:

*regarding claim 6, image recording ink is oil ink

Taguchi et al. disclose the following:

*regarding claim 6, image recording ink is oil ink (paragraph 0003)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize as an image recording ink, oil ink as taught by Taguchi et al. into Hosono et al. for the purpose of improving color purity and density.

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8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosono et al. (US 2002/0036669) in view of Ishikowa (US 2003/0189609).

Hosono et al. does not disclose the following claimed limitation:

*regarding claim 7, image recording ink is ultraviolet ink

Ishikowa discloses the following:

*regarding claim 7, image recording ink is ultraviolet ink (paragraph 00063)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize as an image recording ink, ultraviolet ink as taught by Ishikowa into Hosono et al. for the purpose of adhesion and hardening properties when exposed to ultraviolet light.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima (US 2002/0167558) in view of Asaka et al. (US 6,398,331) and Taguchi et al. (US 2004/0080596).

Kojima disclose all the claimed limitations except for the following:

*regarding claim 9, performing a printing test based on a driving voltage set for the inkjet head, wherein the inspecting ink contains a dyeing agent

Asaka et al. disclose the following:

*regarding claim 9, performing a printing test based on a driving voltage set for the inkjet head (fig. 15; col. 1, lines 56-59 and ABS) for the inkjet head taught by Asaka et al. into Kojima for the purpose of improving printing throughput.

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Taguchi et al. discloses the following:

*regarding claim 9, ink contains a dyeing agent (paragraph 0005 and 0006) for the purpose of having hue and fastnesses sufficient for ink-jet recording

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize performing a printing test based on a driving voltage set for the inkjet head, wherein the inspecting ink contains a dyeing agent as taught by Asaka et al. and Taguchi et al. into Kojima for the purpose of improving printing throughput and having hue and fastnesses sufficient for ink-jet recording.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima (US 2002/0167558) in view of Taguchi et al. (US 2004/0080596).

Kojima disclose all the claimed limitations except for the following:

*regarding claim 12, image recording ink is oil ink

Taguchi et al. disclose the following:

*regarding claim 12, image recording ink is oil ink (paragraph 0003)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize as an image recording ink, oil ink as taught by Taguchi et al. into Hosono et al. for the purpose of improving color purity and density.

11. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima (US 2002/0167558) in view of Ishikowa (US 2003/0189609)

Kojima disclose all the claimed limitations except for the following:

*regarding claim 13, image recording ink is ultraviolet ink

Ishikowa discloses the following:

*regarding claim 13, image recording ink is ultraviolet ink (paragraph 00063)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize as an image recording ink, ultraviolet ink as taught by Ishikowa into Kojima for the purpose of adhesion and hardening properties when exposed to ultraviolet light.

Allowable Subject Matter

12. Claims 2,4,5, 10, and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

13. The primary reason for the allowance of claim 2 is the inclusion of the method steps being performing a printing test based on a-driving waveform corresponding to a rank to which the measured driving waveform is applied. It is this step found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

14. The primary reason for the allowance of claim 10 is the inclusion of the method steps being performing adding a correction value to the measured voltage, the correction value being obtained based on standard ink serving as a standard of the inspecting ink. It is this step found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

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Conclusion


15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Maru (US 6,116,713) includes a recording apparatus with temperature detection means and correction method for driving voltage of the print head. Usuda (US 2004/0189732) includes a waveform determining means for an ejection head.


Communications with the USPTO

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rene Garcia, Jr. whose telephone number is (571) 272-5980. The examiner can normally be reached on M-F 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Rene Garcia Jr
19 December 2005


K. Figgins
PRIMARY EXAMINER